3. (Cancel)

4. (Cancel)

5. (Original) The method of Claim 1, further comprising converting all non-intensity modulated optical information signals of the WDM signal to intensity modulated signals simultaneously prior to first stage demultiplexing.

6. (Original) The method of Claim 1, wherein the plurality of non-intensity modulated optical information signals comprise a set of partially demultiplexed signals from the WDM signal.

7. (Currently Amended) The method of Claim 1, wherein the WDM signal includes a minimum channel spacing ~~comprising a multiple of a symbol rate of the WDM signal within 0.4 to 0.6 of an integer~~ that is greater than (N+0.4)B and less than (N+0.6)B, where B comprises the symbol rate of the WDM signal and N comprises an integer.

8. (Currently Amended) The method of Claim 7, wherein the minimal channel spacing ~~comprising a multiple of the symbol rate within substantially 0.5 of the integer~~ is substantially equal to (N+0.5)B, where B comprises the symbol rate of the WDM signal and N comprises an integer.

9. (Original) The method of Claim 1, further comprising:

separating the WDM signal into a plurality of partially demultiplexed signals using at least one wavelength interleaver; and

converting non-intensity modulated optical information signals in each set simultaneously using an asymmetric Mach-Zender interferometer.

10. (Currently Amended) A system for demultiplexing non-intensity modulated wavelength division multiplexed (WDM) signals, comprising:

means for receiving a wavelength division multiplexed (WDM) signal having a plurality of non-intensity modulated optical information signals; and

means for converting a plurality of the non-intensity modulated optical information signals to intensity modulated signals while the plurality of non-intensity modulated optical information signals are multiplexed in at least a portion of the WDM signal using an asymmetric Mach-Zender interferometer comprising a free spectral range coinciding with a channel spacing of the WDM signal or an integer multiple of the channel spacing.

11. (Cancel)

12. (Cancel)

13. (Cancel)

14. (Original) The system of Claim 10, further comprising means for converting all non-intensity modulated optical information signals of the WDM signal to intensity modulated signals simultaneously prior to first stage demultiplexing.

15. (Original) The system of Claim 10, wherein the plurality of non-intensity modulated optical information signals comprise a set of partially demultiplexed signals from the WDM signal.

16. (Currently Amended) The system of Claim 10, wherein the WDM signal includes a minimum channel spacing ~~comprising a multiple of a symbol rate of the WDM signal within 0.4 to 0.6 of an integer~~ that is greater than (N+0.4)B and less than (N+0.6)B, where B comprises the symbol rate of the WDM signal and N comprises an integer.

11. (Currently Amended) The system of Claim 10, wherein the minimal channel spacing ~~comprising a multiple of the symbol rate within substantially 0.5 of the integer~~ is substantially equal to (N+0.5)B, where B comprises the symbol rate of the WDM signal and N comprises an integer.

18. (Original) The system of Claim 10, further comprising:

means for separating the WDM signal into a plurality of partially demultiplexed signals using at least one wavelength interleaver; and

means for converting non-intensity modulated optical information signals in each set simultaneously using an asymmetric Mach-Zender interferometer.

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19. (Currently Amended) A demultiplexer for an optical receiver, comprising:

~~a format converter~~ an asymmetric Mach-Zender interferometer operable to receive a wavelength division multiplexed (WDM) signal having a plurality of non-intensity modulated optical information signals and to convert the non-intensity modulated optical information signals to intensity modulated optical information signals while multiplexed in the WDM signal, the interferometer comprising a free spectral range coinciding with a channel spacing of the WDM signal or an integer multiple of the channel spacing; and

a plurality of demultiplexing elements each operable to separate a received set of intensity modulated optical information signals into a plurality of signals each having at least one intensity modulated optical information signal.

20. (Cancel)

14 13 19

21. (Original) The demultiplexer of Claim ~~20~~, wherein the demultiplex elements comprise Mach-Zender interferometers.